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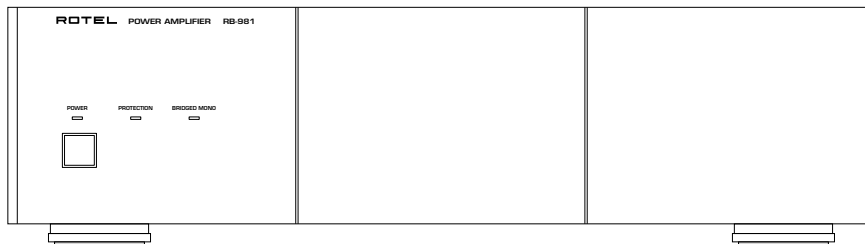
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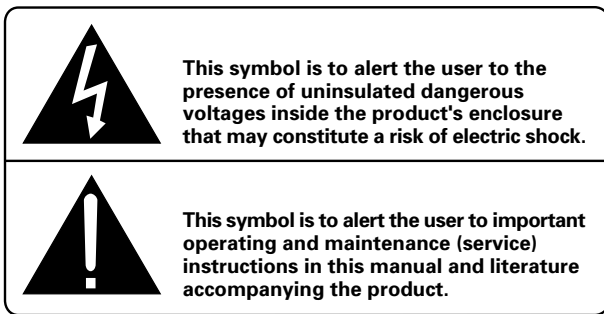
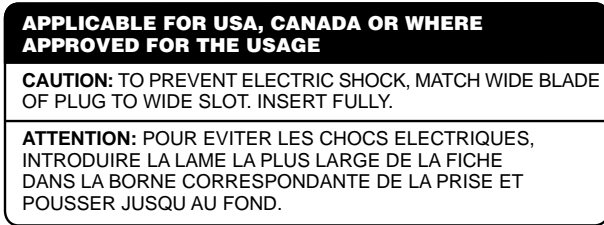
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RB-981

STEREO POWER AMPLIFIER
AMPLIFICATEUR DE PUISSANCE STÉRÉO
STEREO-ENDSTUFE
ETAPA DE POTENCIA ESTEREOFONICA



Owner's Manual
Guide d'utilisation
Bedienungsanleitung
Manual de Instrucciones



WARNING:

There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

WARNING:

To reduce the risk of fire or electrical shock, do not expose the unit to moisture or water. Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and necessary repairs.

Read all the instructions before connecting or operating the unit. Keep this manual so you can refer to these safety instructions.

Heed all warnings and safety information in these instructions and on the product itself. Follow all operating instructions.

Clean the unit only with a dry cloth or a vacuum cleaner.

Keep the ventilation inlets on the unit unobstructed. For example, do not place the unit on a bed, sofa, rug, or similar surface that could block the ventilation slots. If the unit is placed in a bookcase or cabinet, there must be sufficient clearance around the unit and ventilation of the cabinet to allow proper cooling.

Keep the unit away from radiators, heat registers, stoves, or any other appliance that produces heat.

The unit must be connected to a power supply only of the type and voltage specified on the rear panel of the unit.

Connect the unit to the power outlet only with the supplied 2-pin polarized power supply cable or an exact equivalent. Do not modify the supplied cable in any way. Do not attempt to defeat grounding and/or polarization provisions. The cable should be connected to a 2-pin polarized wall outlet, matching the wide blade of the plug to the wide slot of the receptacle. Do not use extension cords.

Do not route the power cord where it will be crushed, pinched, bent at severe angles, exposed to heat, or damaged in any way. Pay particular attention to the power cord at the plug and where it exits the back of the unit.

The power cord should be unplugged from the wall outlet if the unit is to be left unused for a long period of time.

Immediately stop using the unit and have it inspected and/or serviced by a qualified service agency if:

- The power supply cord or plug has been damaged.
- Objects have fallen, or liquid has been spilled, into the unit.
- The unit has been exposed to rain.
- The unit shows signs of improper operation
- The unit has been dropped or damaged in any way

Place the unit on a fixed, level surface strong enough to support its weight. Do not place the unit on a moveable cart that could tip over.



**Figure 1: Controls and Connections / Commandes et branchements
Bedienelemente und Anschüsse / Controles y Conexiones**

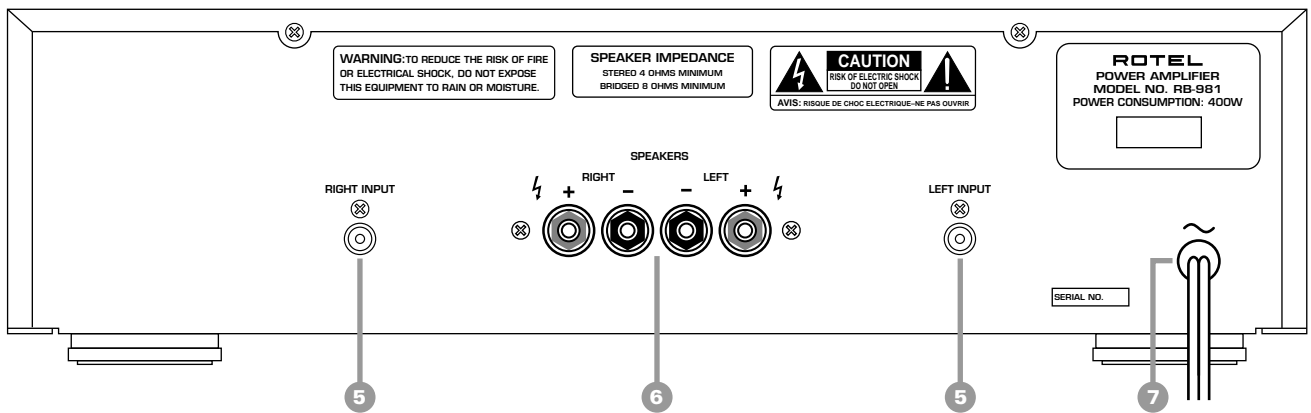


Figure 2: Stereo Connections – Inputs and Speakers / [French Translation] / [German Translation] / [Spanish Translation]

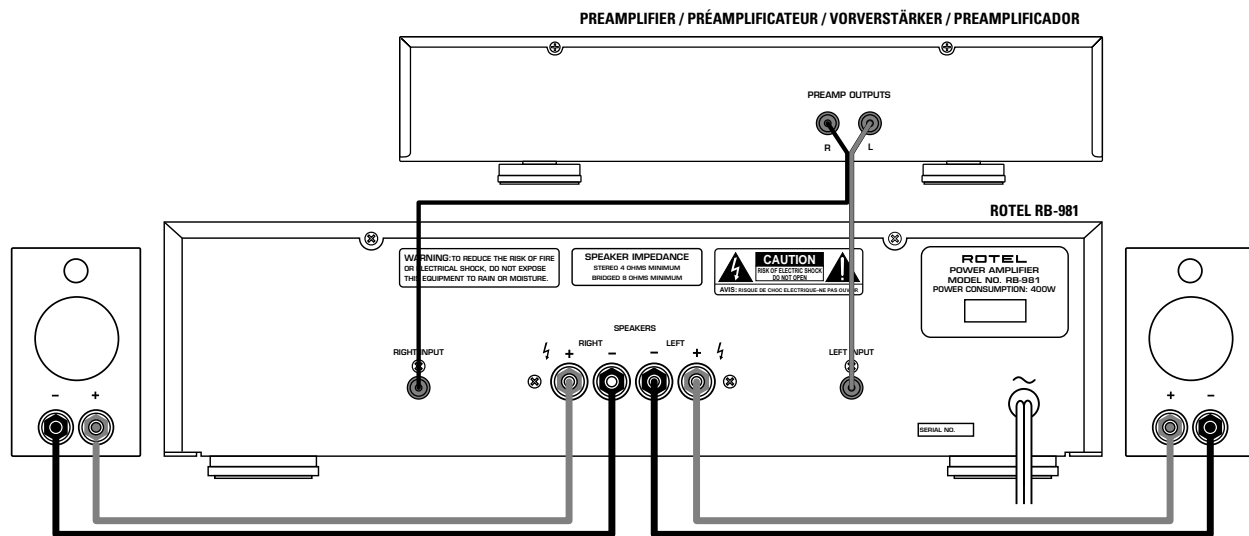
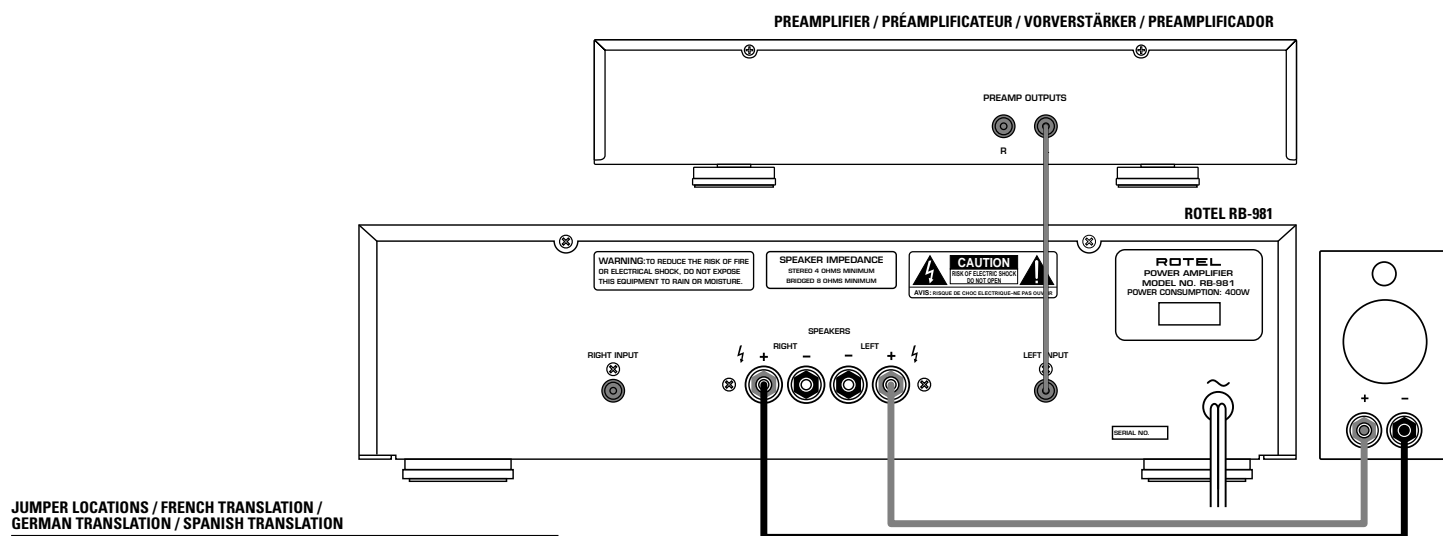
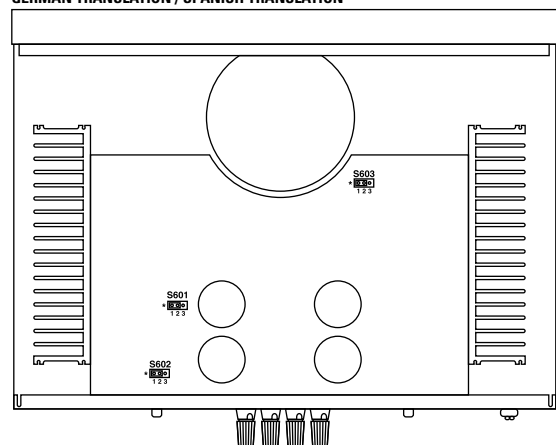


Figure 3: Bridged Mono Connections – Inputs and Speakers / [French Translation] / [German Translation] / [Spanish Translation]



JUMPER LOCATIONS / FRENCH TRANSLATION / GERMAN TRANSLATION / SPANISH TRANSLATION



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About Rotel

A family whose passionate interest in music led them to manufacture high fidelity components of uncompromising quality founded Rotel over 30 years ago. Through the years that passion has remained undiminished and the family goal of providing exceptional value for audiophiles and music lovers, regardless of their budget, is shared by all Rotel employees.

The engineers work as a close team, listening to, and fine tuning each new product until it reaches their exacting musical standards. They are free to choose components from around the world in order to make that product the best they can. You are likely to find capacitors from the United Kingdom and Germany, semi conductors from Japan or the United States, while toroidal power transformers are manufactured in Rotel's own factory.

Rotel's reputation for excellence has been earned through hundreds of good reviews and awards from the most respected reviewers in the industry, who listen to music every day. Their comments keep the company true to its goal – the pursuit of equipment that is musical, reliable and affordable.

All of us at Rotel thank you for buying this product and hope it will bring you many hours of enjoyment.

Getting Started

Thank you for purchasing the Rotel RB-981 Stereo Power Amplifier. When used in a high-quality music or home theater system, your Rotel amplifier will provide years of musical enjoyment.

The RB-981 is a high-power, two-channel power amplifier, providing the highest level of audio performance. Discrete output devices, a massive power supply, premium components, and Rotel's Balanced Design ensure superb sound quality. High current capability allows the RB-981 to drive the most demanding loudspeakers.

Be aware that the RB-981 is capable of high power levels, in excess of 130 watts per channel. Make sure that your speakers can handle the power of the RB-981. If in doubt about your speakers, ask your local Rotel audio retailer for advice.

The RB-981 is straightforward in its installation and operation. If you have experience with other stereo power amplifiers, you shouldn't find anything perplexing. Plug in a pair of high-quality RCA cables from your preamp into the amplifier inputs, wire up your speakers, and enjoy.

A Few Precautions

Please read this manual carefully. In addition to basic installation and operating instructions, it provides valuable information on various RB-981 system configurations as well as general information that will help you get optimum performance from your system. Please contact your authorized Rotel audio retailer for answers to any questions you might have. In addition, all of us at Rotel welcome your questions and comments.

Save the RB-981 shipping carton and all enclosed packing material for future use. Shipping or moving the RB-981 in anything other than the original packing material may result in severe damage to your amplifier.

Fill out and send in the owner's registration card packed with the RB-981. Also be sure to keep the original sales receipt. It is your best record of the date of purchase, which you will need in the event warranty service is ever required.

Placement

Because of its high power output, the RB-981 may generate considerable heat. The heat sinks and ventilation openings in the amplifier are more than capable of dissipating this heat under normal conditions, but don't smother your amplifier. There must be adequate clearance around the chassis. The ventilation slots in the top cover must be unblocked, and there must be reasonable airflow around the amplifier. Use common sense when placing the amplifier in a cabinet or when stacking other equipment.

Likewise, remember the weight of the amplifier when you select an installation location. Make sure that the shelf or cabinet can support its considerable bulk. Again, use common sense.

AC Power and Control

AC Power Input 7

Because of its high power rating, the RB-981 can draw considerable current. Therefore, it should be plugged directly into a 2-pin polarized wall outlet. Do not use an extension cord. A heavy duty multi-tap power outlet strip may be used if it (and the wall outlet) is rated to handle the current demanded by the RB-981 and all the other components connected to it.

Be sure the power switch on the front panel of the RB-981 is turned off (in the out position). Then, connect the supplied power cord to the AC power outlet.

Your RB-981 is configured at the factory for the proper AC line voltage in the country where you purchased it (either 115 volts AC or 230 volts AC with a line frequency of either 50 Hz or 60 Hz). The AC line configuration is noted on a decal on the back panel.

Note: Should you move your RB-981 amplifier to another country, it is possible to reconfigure your amplifier for use on a different line voltage. Do not attempt to perform this conversion yourself. Opening the enclosure of the RB-981 exposes you to dangerous voltages. Consult a qualified service person or the Rotel factory service department for information.

If you are going to be away from home for an extended period of time such as a month-long vacation, it is a sensible precaution to unplug your amplifier (as well as other audio and video components) while you are away.

Power Switch 1 and Power Indicator 2

The power switch is located on the front panel of your amplifier. To turn the amplifier on, push the switch in. The LED indicator above the switch will light, indicating that the amplifier is turned on. To turn the amplifier off, push the button again and return it to the out position.

Protection Circuitry 3

The RB-981 features a thermal protection circuit that protects the amplifier against potential damage in the event of extreme or faulty operating conditions. Unlike many designs, the RB-981's protection circuit is independent of the audio signal and has no impact on sonic performance. Instead, the protection circuit monitors the temperature of the output devices and shuts down the amplifier if temperatures exceed safe limits.

Most likely, you will never see this protection circuitry in action. However, should a faulty condition arise, the amplifier will stop playing and the LED indicator on the front panel will light up.

If this happens, turn the amplifier off, let it cool down for several minutes, and attempt to identify and correct the problem that caused the protection circuitry to engage. When you turn the amplifier back on, the protection circuit will automatically reset and the indicator LED should go out.

In most cases, the protection circuitry activates because of a fault condition such as shorted speaker wires, or inadequate ventilation leading to an overheating condition. In very rare cases, highly reactive or extremely low impedance speaker loads could cause the protection circuit to engage.

If the protection circuitry triggers repeatedly and you are unable to isolate and correct the faulty condition, contact your Rotel audio retailer for assistance in troubleshooting.

Input Signal Connection 5

[See Figure 2 for normal stereo wiring illustration.]

The RB-981 has conventional RCA type input connectors, the type found on nearly all audio equipment.

Note: *To prevent loud noises that neither you nor your speakers will appreciate, make sure the amplifier is turned off when you make any signal connections.*

Select a high quality pair of audio interconnect cables. Connect the left channel output of your preamp to the left channel input on the RB-981. Connect the right channel output of your preamp to the right channel input.

Speaker Connection

Speaker Selection

We recommend using loudspeakers with a nominal impedance of 4 ohms or higher with the RB-981. You should exercise some caution in driving multiple pairs of speakers in parallel configuration, because the effective impedance the amplifier sees is cut in half. For example, when driving two pair of 8 ohm speakers, the amplifier sees a 4 ohm load. When driving multiple speakers in parallel, it is recommended that you select speakers with a nominal impedance of 8 ohms or higher. Speaker impedance ratings are less than precise. In practice, very few loudspeakers will present any problems for the RB-981. See your Rotel audio retailer if you have any questions.

Speaker Wire Selection

Use insulated two-conductor stranded wire to connect the RB-981 to the speakers. The size and quality of the wire can have an audible effect on the performance of the system. Standard speaker wire will work, but can result in lower output or diminished bass response, particularly over longer distances. In general, heavier wire will improve the sound. For best performance, you may want to consider special high-quality speaker cables. Your Rotel audio retailer can help in the selection of appropriate cables for your system.

Polarity and Phasing

The polarity — the positive/negative orientation of the connections — for every speaker and amplifier connection must be consistent so all the speakers will be in phase. If the polarity of one connection is mistakenly reversed, bass output will be very weak and stereo imaging degraded. All wire is marked so you can identify the two conductors. There may be ribs or a stripe on the insulation of one conductor. The wire may have clear insulation with different color conductors (copper and silver). There may be polarity indications printed on the insulation. Identify the positive and negative conductors and be consistent with every speaker and amplifier connection.

Stereo Speaker Connection 6

The RB-981 has two pairs of color coded binding posts on the back panel. These connectors accept bare wire, connector lugs, or dual banana type connectors (except in the European Community countries where their use is not permitted).

Route the wire from the RB-981 to the speakers. Give yourself enough slack so you can move the components enough to allow access to the speaker connectors.

If you are using dual banana plugs, connect them to the wires and then plug into the backs of the binding posts. The hexagonal thumbscrews of the binding posts should be screwed in all the way (clockwise).

If you are using terminal lugs, connect them to the wires. If you are attaching bare wires directly to the binding posts, separate the wire conductors and strip back the insulation from the end of each conductor. Be careful not to cut into the wire strands. Unscrew (turn counterclockwise) the binding post hexagonal thumbscrews. Place the connector lug around the binding post shaft, or insert the bundled wire into the hole in the shaft. Turn the hexagonal thumbscrews clockwise to clamp the connector lug or wire firmly in place.

Note: *Be sure there are no loose wire strands that could touch adjacent wires or connectors.*

Bridged Mono Operation

[See Figure 3 for bridged operation jumper setting and connection illustration.]

The two channels of the RB-981 can be "bridged". In this configuration the single channel produces a massive 390 watts! This feature allows you to increase the overall power output of your system by bridging the RB-981 and adding a second bridged RB-981. Or the RB-981 is bridged to drive a monophonic subwoofer. Note however that when the RB-981 is bridged the speaker connected to it must have an impedance of 8 ohms or more.

In order to use the RB-981 in bridged mode, three "jumper" connectors inside the amplifier **must** be moved from one set of pins to another. This task should be done by a qualified technician. See your Rotel audio retailer. In addition the RB-981 is connected to the other components in a different way. When the RB-981 is setup for bridged operation the Bridged Mono indicator light **4** on the front panel will light.

Resetting Jumpers

Before opening the RB-981 cabinet to reset the jumpers, the power cord must be unplugged from the wall. DO NOT OPEN THE CABINET OF THE RB-981 BEFORE THE POWER CORD HAS BEEN UNPLUGGED FROM THE WALL. FAILURE TO DO SO WILL EXPOSE YOU TO HAZARDOUS VOLTAGES.

After the power cord has been unplugged, remove the screws that hold the cabinet cover in place and slide the cover off the amplifier. Locate the three jumper pin blocks labeled S 601, S 602 and S 603. The factory standard (stereo) position of the jumpers is on pins 1 and 2 of each block. There is a * mark on the circuit board next to this position. To convert the RB-981 to bridged mono move all three jumpers so they are on pins 2 and 3 of each jumper pin block. Replace the cover of the cabinet. **Do not plug the RB-981 power cord back into the wall outlet until the cabinet cover has been replaced.**

Input Connection

When using the RB-981 in bridged mono mode, connect the cable from the preamplifier output to the left input. No connection is made to the right input.

Bridged Speaker Connection

When using the RB-981 in bridged mono mode, the wire to the speakers is connected to the positive terminals of the left and right channels. Connect the wire that goes to the positive terminal of the speaker to the positive terminal of the left channel of the RB-981. Connect the wire that goes to the negative terminal of the speaker to the positive terminal of the right channel of the RB-981. No connections are made to the negative terminals of the RB-981.

Troubleshooting

Most difficulties in audio systems are the result of poor or wrong connections, or improper control settings. If you encounter problems, isolate the area of the difficulty, check the control settings, determine the cause of the fault and make the necessary changes. If you are unable to get sound from the RB-981, refer to the suggestions for the following conditions:

Front Panel Power Indicator Is Not Lit

No main power to the RB-981. Check the front panel power switch. Make sure that it is set to the on position. Check AC power connections at the amplifier and the AC outlet.

Fuse Replacement

If everything checks out correctly and you still cannot get the amplifier to turn on, the internal power fuse may have blown. If you believe this has happened, contact your Rotel dealer for information on where to take your amplifier to get the fuse replaced.

No Sound

If the amp is getting AC power, but is producing no sound, check the Protection indicator on the front panel. If it is lit, see below. If not, check all of your connections and control settings on associated components.

Protection Indicator Is Lit

The front panel indicator lights when the RB-981 protection circuits have shut off the amplifier. Typically, this occurs only when the ventilation openings are blocked, when there is faulty speaker wiring, or after a period of extreme use. Turn off the system and wait for the amp to cool. Then push the front panel power switch in and out to reset the protection devices. If the problem is not corrected or reoccurs, there is a problem with the system or the amplifier itself.



Specifications

Continuous Power Output (20-20 kHz, < 0.03%, 8 ohms)	130 watts/ch
Total Harmonic Distortion (20Hz-20kHz, 8 ohms)	< 0.03%
Intermodulation Distortion (60 Hz : 7 kHz, 4:1)	< 0.03%
Frequency Response (+0.5, -3dB dB)	4Hz-100kHz
Damping Factor (20-20,000 Hz, 8 ohms)	1000
Speaker Impedance (Normal mode)	4 ohms nominal
Signal to Noise Ratio (IHF A network)	120 dB
Input Impedance/Sensitivity	33 k Ohms/1.0 volt
Power Requirements	115 Volts, 60 Hz or 230 Volts, 50 Hz
Power Consumption	400 Watts
Dimensions (W x H x D)	440 x 121 x 305 mm 17 ³ / ₈ x 4 ³ / ₄ x 12"
Weight (net)	10.2 kg, 22.4 lb.

All specifications are accurate at the time of printing.
Rotel reserves the right to make improvements without notice.

Technische Daten

Dauerausgangsleistung (20-20 kHz, < 0,03%, 8 Ohm)	130 Watt pro Kanal
Gesamtklirrfaktor (20 - 20.000 Hz, 8 Ohm)	< 0,03 %
Intermodulationsverzerrung (60 Hz : 7 kHz, 4:1)	< 0,03 %
Frequenzgang (+0.5, -3dB dB)	4 bis 100.000 Hz
Dämpfungsfaktor (20-20,000 Hz, 8 Ohm)	1000
Lautsprecherimpedanz (Normalbetrieb)	Minimum 4 Ohm
Geräuschspannungsabstand (IHF A)	120 dB
Eingangsimpedanz/-empfindlichkeit	33 k Ohms/1,0 V
Spannungsversorgung	230 Volts, 50 Hz
Max. Leistungsaufnahme	400 Watt
Abmessungen (B x H x T)	440 x 121 x 305 mm
Nettogewicht	10.2 kg

Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

Fiche technique

Puissance de sortie continue (20 Hz à 20 kHz, 0,03 %, 8 ohms)	130 watts par canal
Distortion harmonique total (20-20k Hz, 8 ohms)	0.03 %
Distortion d'intermodulation (60 Hz : 7 kHz, 4:1)	0.03 %
Réponse en fréquence (+0.5, -3dB dB)	4 Hz à 100 kHz
Facteur d'amortissement (20-20,000 Hz, 8 ohms)	1000
Impédance (mode normal)	4 ohms minimum
Rapport signal/bruit (IHF A network)	120 dB
Impédance d'entrée/Sensibilité	33 kohms/1.0 volt
Alimentation	115 Volts, 60 Hz ou 230 Volts, 50 Hz
Consommation	400 Watts
Dimensions (L x H x P)	440 x 121 x 305 mm
Poids (net)	10.2 kg

Toutes les spécifications de cet appareil étaient exactes au moment de l'impression de ce guide. Rotel se réserve le droit de les modifier sans préavis.

Características Técnicas

Potencia Continua de Salida (20-20.000 Hz, THD menor del < 0'03%, 8 ohmios)	130 vatios/canal
Distorsión Armónica Total (20-20.000 Hz, 8 ohmios)	< 0'03%
Distorsión por Intermodulación (60 Hz : 7 kHz, 4:1)	< 0'03%
Respuesta en Frecuencia (+0'5, -3dB dB)	4Hz-100.000 Hz
Factor de Amortiguamiento (20-20.000 Hz, 8 ohmios)	1000
Impedancia de las Caja Acústicas (modo Normal)	minima de 4 ohmios
Relación Señal/Ruido (norma IHF/ ponderación A)	120 dB
Sensibilidad/Impedancia de Entrada	33 kohmios/1'0 V
Alimentación	115 voltios/60 Hz 230 voltios/50 Hz
Consumo	400 vatios
Dimensiones (An x Al x P)	440 x 121 x 305 mm
Peso Neto	10.2 kg

Todas estas especificaciones son correctas en el momento de la impresión del presente manual de instrucciones.
Rotel se reserva el derecho a realizar modificaciones en las mismas sin aviso previo.

RB-981

STEREO POWER AMPLIFIER

The Rotel Company, Ltd.

10-10 Shinsen-Cho
Shibuya-Ku
Tokyo 150-0045
Japan
Phone: +81-3-5458-5325
Fax: +81-3-5458-5310

Rotel Deutschland

Kleine Heide 12
D-33790 Halle/Westf.
Germany
Phone: 05201-87170
Fax: 05201-73370

Rotel of America

54 Concord Street
North Reading, MA 01864-2699
USA
Phone: 978-664-3820
Fax: 978-664-4109

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